

a real process of improvement and had acquired a sufficient degree of sensitiveness. Moreover, ants only make their appearance during the tertiary epoch.

The perfecting process must likewise have been accelerated by the difficulty experienced by the larva in emerging from the egg-shell. At this time it frequently happens that the tarsus of one of the limbs remains fixed in the hard round shell, which is then dragged along like a ball by the insect. Severe strains result from this every moment, when the shell is caught in some obstacle. These strains, if not always sufficient to produce autotomy, nevertheless pretty often bring about the mutilation of the tarsus, which, after being torn off, is abandoned either in its entirety or else merely in part, together with the egg-shell. This, then, must again have contributed to the development of the regenerative faculty possessed by the tarsus and the lower third of the tibia.

Saurians and Batrachians, represented by the Stegocephali as early as the primary epoch, then certain small mammals beginning with the secondary epoch, although they do not appear to be able to produce mutilations in the shape of clean amputations of the femur and tibia, were nevertheless capable of contributing to the development of the regenerative faculty in the tarsal region, as well as to the perfecting of autotomy. But their attacks could not have been one of the primary causes of the appearance of the special disposition permitting autotomy first and regeneration afterwards.

In a communication shortly to appear I propose to seek for these primary causes.

MISCELLANEOUS.

Note on Papilio glycerion, Gray.

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IN 1831 no. 1 of Gray's 'Zoological Miscellany' contained, on page 32, the short Latin diagnosis by Geo. Robert Gray printed below :—

"*Papilio Glycerion*.—*P. alis flavescens, fasciis nigris; posticis caudatis apice nigro, lunulis marginalibus cæruleis, angulo ani striga flava. Expansio alarum 3 poll. Habitat in Nepal.*"

The original of the description is said to be in the collection of General Hardwicke.

Twelve years later—in 1843—Boisduval (*Spec. Gén. Lép. i.*

p. 247. n. 71) gave a full description of the upperside from a figure on a plate in Gray's then unpublished 'Lepidopterous Insects of Nepaul in the Collection of Major-General Hardwicke.' The plate is quoted by Boisduval as no. 1, but was published as no. 3. Most clear in the description is the notice of the two basal bands of the wings:—"La première, près de la base, se continuant sur le bord abdominal des inférieures; la seconde également commune, mais ne dépassant pas la cellule discoïdale des inférieures."

These bands are quite obvious in Gray's figures of *glycerion* in 'The Lepidopterous Insects of Nepaul' (1846).

In the interval, however, between Boisduval's description and the issue of Gray's plate, Westwood (Arcana Ent. ii. p. 24, t. 55. f. 3, 1843) had figured, under the name of *glycerion*, Gray, the underside of a *Papilio* which was not the species described by Gray and Boisduval, though he quotes the latter's detailed description as absolving him from figuring the upperside.

Westwood's specimen came from "Semlah, in the East Indies," and he received it from Captain Parry.

Oberthür, in 1879 (Et. d'Ent. iv. p. 115), described a Chinese form, entirely rightly, as *glycerion*, var. *mandarinus*; and in 1886 de Nicéville (Journ. As. Soc. Beng. lv. p. 254) described, as intermediate between *glycerion*, Gray, and *timerlanus*, Ob., *Papilio paphus* from Sikkim, and, for comparison, figured on pl. xi. *tom. cit.* the undersides of the species he called *glycerion*, Gray, and *paphus*, de Nicév.

Unfortunately *glycerion*, de Nicéville and of most authors, is *glycerion*, Westwood, nec Gray, as is obvious from the mention and figure of the median black line on the hind wings in the description of Boisduval and the drawing of Gray; and should further evidence be required, Gray's type is in the National Collection.

Papilio paphus, de Nicéville, became a synonym of *P. glycerion*, Gray, and *glycerion*, Westw. et auct. plur., was without a name till Rothschild's invaluable monograph on Eastern *Papilios* appeared in Novit. Zool. vol. ii. (1895), where the author bestowed the name *caschmirensis* on a subspecies, 165 (b), of what he, misled apparently by Westwood's error of identification, considered *glycerion*, Gray.

The subspecies 165 (a), "*Papilio glycerion*, forma *typica*" of the monograph, is still unnamed, and for this, the prevalent Sikkim form, I propose the subspecific name *sikkimica*.

The name of species no. 165 will be then *caschmirensis*, Rothschild, with subspecies *sikkimica*, mihi; and species no. 167 will stand as *glycerion*, Gray, with *mandarinus*, Ob., as a subspecies.

Paphus, de Nicév., being a synonym of *glycerion*, Gray, forma *typica*, disappears altogether.

The type of the genus *Pazala*, Moore (1888), is *Pap. glycerion*, Gray.